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EXAMINER

CHORBAJI, MONZER R

ART UNIT

PAPER NUMBER

1744

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18

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/530,361

Applicant(s)

MORUZZI, GUIDO

Examiner

MONZER R CHORBAJI

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Non-final Rejection is in response to the RCE/Amendment received on 07/09/2003

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 5 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In new claim 20, lines 4 and 9, applicant uses the term "a substantial amount".

The specification does not include such a term. The same applies to claim 5.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 5 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In new claim 20, lines 4 and 9, applicant uses the term " a substantial amount of the hydrogen peroxide". It is not clear what "substantial" represent. Does " substantial" mean 60% or 70% of the amount of the hydrogen peroxide is

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removed? Or more is removed? It is not clear how to consider the term

“substantial amount”. It would be clearer to omit such a term.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 2-3, 7-13, 17-18, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Swank et al (U.S.P.N. 6,039,922).

With respect to claim 20, Swank discloses a method (col.1, lines 15-18) for applying (figure 1, 30) hydrogen peroxide to a packaging sheet material (col.8, lines 115-16) then removing a substantial amount of the hydrogen peroxide (figure 1, 36 and col.4, lines 56-58) from the surface of the packaging material since a hot air distributor is inherently capable of removing a substantial amount of the hydrogen peroxide while retaining a residual amount, which is

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important in the next step for the synergistic sterilization effect between UV radiation and the residual amount of hydrogen peroxide (col.4, lines 62-66). Then Swank et al discloses irradiating the material with UV wavelength (figure 1, 38 and col.4, lines 62-66) between 200 nm and 320 nm (col.7, line 1). In addition, the web material inherently contains microorganisms on the surface, since Swank et al goal is to sterilize such material. Thus, Swank et al method leaves a residual trace of hydrogen peroxide such a trace amount is inherently absorbed by or located at microorganisms present on a surface of the packaging sheet material and is directly targeted during the irradiation operation.

With respect to claims 2-3, and 12-13, Swank et al teaches that liquid hydrogen peroxide is known to be applied (col.1, lines 45 and 48-48) with concentration of up to 50% by weight (col.32, lines 3-6) such that this range inherently includes 20% to 40% by weight.

With respect to claims 7-8, Swank et al teaches irradiating the packaging sheet material with UV light of 222 nm (col.7, lines 30-33 and line 47-48) with an excimer.

With respect to claims 9-10, Swank et al discloses that the material is a web (col.8, lines 15-16), and the material is a blank (col.6, lines 27-28).

With respect to claim 11, Swank et al discloses an apparatus for sterilizing a packaging sheet material (figure 1) including the following: means for applying hydrogen peroxide to a packaging sheet (figure 1, 30 and 24), means for removing the hydrogen peroxide from the surface of the packaging sheet material (figure 1, 36), means for irradiating the packaging sheet material (figure

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1, 38) with UV light with a wavelength (figure 1, 38) between 200 nm and 320 nm (col.7, line 1).

With respect to claims 17-18, Swank et al teaches the following: UV includes a monochromatic excimer lamp (col.15, lines 63-65 and col.7, line 1) source having a wavelength of 222 nm.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swank et al (U.S.P.N. 6,039,922) in view of Loliger et al (U.S.P.N. 3,692,468).

The teachings of Swank et al have previously been set forth with regard to claims 2-3, 7-13, 17-18, and 20. With respect to claims 4 and 14, Swank et al

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fails to disclose a temperature of the hydrogen peroxide bath. Loliger et al discloses a temperature of 60 degrees C (col.2, lines 68-70). Thus, one having ordinary skill in the art would have been motivated to modify Swank et al method and apparatus to heat the hydrogen peroxide bath since heating of the hydrogen peroxide results in killing even heat-resisting germs (Loliger et al, col.1, lines 30-33).

11. Claims 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swank et al (U.S.P.N. 6,039,922) in view of Posey et al (U.S.P.N. 4,783,947).

The teachings of Swank et al have previously been set forth with regard to claims 2-3, 7-13, 17-18, and 20. With respect to claims 4 and 14, Swank et al fails to disclose a specific temperature range for the heated air. Posey et al teaches heating the air to a temperature of 107 degrees C (col.6, lines 45-48). Thus, one having ordinary skill in the art would have been motivated to modify Swank et al method and apparatus to heat the air to such temperature value in order to insure that the web of film is dried and the majority of residues are removed (Posey et al, col.2, lines 45-47).

12. Claims 6 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swank et al (U.S.P.N. 6,039,922) in view of Sizer et al (U.S.P.N. 5,843,374).

The teachings of Swank have previously been set forth with regard to claims 1-5, 7-14, and 16-18. With regard to claims 6 and 19, Swank fails to disclose such a limitation. However, Sizer discloses the use of polychromatic UV

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light (col.2, lines 37-44 and col.10, lines 17-21). As a result, one having ordinary skill in the art of sterilizing web material would have been motivated to utilize the teachings of Sizer to Swank in order to design an apparatus capable of using both types of UV light.

13. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swank et al (U.S.P.N. 6,039,922) in view of Lothman et al (U.S.P.N. 4,225,556).

The teachings of Swank have previously been set forth with regard to claims 1-5, 7-14, and 16-18. With regard to claim 15, Swank fails to disclose such a limitation. However, Lothman discloses a bath that intrinsically defines a liquid column with a certain height (figure 1, 16). However, such a height is due to experimentation and is within the scope of the artisan.

Response to Arguments

14. Applicant's arguments filed 11/13/2002 have been fully considered but they are not persuasive.

On page 6 of the response, applicant argues, "the '922 patent does not disclose a method which includes the operation of removing a substantial amount of hydrogen peroxide after application of the hydrogen peroxide to a packaging sheet material and prior to irradiation of the packaging sheet material with UV light". The Swank et al discloses applying hydrogen peroxide to a packaging (figure 1, 30, col.4, lines 56-58, col.7, lines 24-27, and col.8, lines 21-22), then removing a substantial amount of the hydrogen peroxide (figure 1, 36 and col.4, lines 56-58) from the surface of the packaging material since a hot air distributor is inherently capable of removing a substantial amount of the hydrogen peroxide

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while retaining a residual amount, which is important in the next step for the synergistic sterilization effect between UV radiation and the residual amount of hydrogen peroxide (col.4, lines 62-66). For example, in col.7, lines 24-26, Swank et al teaches that the heated air distributors dry the packaging material. This statement means that a substantial amount of hydrogen peroxide has been removed prior to irradiation step.

On page 6 of the response, applicant argues, "The applicants respectfully submit that the operation alleged in the official action is not necessary to the invention disclosed i the '922 patent". The Swank et al reference discloses various embodiments of sterilizing packaging sheets. One of the embodiments is to apply hydrogen peroxide, then remove substantial amount of hydrogen peroxide, then irradiate the packaging sheet. In another embodiment, for example, is to apply hydrogen peroxide, then irradiate, the remove substantial amount of hydrogen peroxide. Another embodiment is to apply hydrogen peroxide then to irradiate with UV. Thus, all the embodiments are available to a person skilled in the art to choose from.

On page 6 of the response, applicant argues, "Rather, the '922 patent explicitly claims that a substantial amount of hydrogen peroxide is not removed until after irradiation of partially formed cartons, as claimed in independent claim 1 of the '922 patent". This is a mischaracterization of the reference. The second hot air station in one of the alternative embodiments is to remove hydrogen peroxide left from the first hot air station since the first hot air station does not

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remove all (emphasis added) of the hydrogen peroxide. However, a substantial amount is removed in the first hot air station.

On page 6 of the response, applicant argues, "Likewise, the '922 patent does not disclose directly targeting a residual quantity of hydrogen peroxide absorbed by or located at microorganisms present on a surface of a packaging sheet material". The Swank et al reference discloses removing a substantial amount of the hydrogen peroxide (figure 1, 36 and col.4, lines 56-58) from the surface of the packaging material since a hot air distributor is inherently capable of removing a substantial amount of the hydrogen peroxide while retaining a residual trace, which is (residual amount of hydrogen peroxide) important in the next step for the synergistic sterilization effect between UV radiation and the residual amount of hydrogen peroxide (col.4, lines 62-66). In addition, the web material inherently contains microorganisms on the surface, since Swank et al goal is to sterilize such material. As a result, Swank et al method leaves a residual trace of hydrogen peroxide such a trace amount is inherently absorbed by or located at microorganisms inherently present on a surface of the packaging sheet material and is directly targeted during the irradiation operation.

On page 6 of the response, applicant argues, "the '922 patent is directed to a mandrel bending machine whereas the present invention is directed to a continuous web based packaging machine". The claims do not recite the limitation "continuous web based packaging machine. See figure 6, where the machine is a continuous web based packing machine.

Conclusion

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15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONZER R CHORBAJI whose telephone number is (703) 305-3605. The examiner can normally be reached on M-F 8:30-5:00.

16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ROBERT J WARDEN can be reached on (703) 308-2920. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

17. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Monzer R. Chorbaji *MRC*
Patent Examiner
AU 1744
July 29, 2003

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